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Elements and Ephemeris of the Second Comet of 1854.

By J. R. Hind, Esq.

"From three observations of the new comet, taken at Mr. Bishop's Observatory on the evenings of March 29th and April 1st and 4th, I have calculated the following elements of its orbit:—

Perihelion Passage, 1854, March 24.

	° ′ ″	
Longitude of Perihelion	213 47 32	True Eq^{x} April 0.
Ascending Node	315 27 53	
Inclination...........................	82 23 54	
Log of least Distance	9·4427392	

Motion retrograde.

"These elements have some slight resemblance to those of the second comet of 1799, observed by Mechain at Paris about Christmas in that year; but the similarity is not sufficiently great to justify a suspicion of identity.

"On the 29th of March, when the comet was generally observed throughout this country, its appearance was finer than that of the one visible in August last; the nucleus was brighter than stars of the second magnitude, and the tail could be traced through a space of 4° or upwards. At the beginning of the present month the tail was very sensibly curved.

"The following places of the comet have been computed from the above elements:—

At Greenwich Mean Noon.

1854.	Comet's R.A. h m s	Comet's N.P.D. ° ′	Log Δ.	Log *r*.
April 12	3 50 2	81 20·2	9·9941	9·7947
13	3 57 27	82 14·8		
14	4 4 25	83 7·4	0·0133	9·8254
15	4 10 56	83 57·9		
16	4 17 5	84 46·3	0·0326	9·8539
17	4 22 53	85 32·6		
18	4 28 21	86 16·9	0·0519	9·8803
19	4 33 32	86 59·2		
20	4 38 26	87 39·6	0·0709	9·9049
21	4 43 6	88 18·2		
22	4 47 32	88 55·2	0·0893	9·9279
23	4 51 46	89 30·6		
24	4 55 49	90 4·5	0·1071	9·9494
25	4 59 41	90 37·0		
26	5 3 23	91 8·0	0·1243	9·9667
May 6	5 33 52	95 22·1	0·2009	0·0558

"The co-ordinate constants (true equinox, April 15) are as subjoined:—

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$$x = r\,.\,[9{\cdot}8566309]\,.\,\sin(340^\circ\ 54'\ 43'' + v)$$
$$y = r\,.\,[9{\cdot}9049116]\,.\,\sin(205\ \ 7\ \ 0 + v)$$
$$z = r\,.\,[9{\cdot}9615897]\,.\,\sin(96\ \ 5\ \ 14 + v)$$

"*Mr. Bishop's Observatory*, 1854, *April* 12."

Observations of Comet II., 1854, *made at Markree Observatory.*

	Green. M.T.	R.A.		Decl.	
	1854.	h m s		° ′ ″	
April	14·380856	4 6 56·54	+[9·5281]÷Δ	6 33 11·4	+[0·8370]÷Δ
	15·371142	4 13 16·36	[9·5262]	5 44 2·4	[0·8353]

Mean Places of Compared Stars, 1854·0.

	h m s	° ′ ″	
April 14	4 1 38·765	6 20 23·3	Weisse 4^h 2
15	4 12 54·49	5 46 42·85	Rümker, 4^h 1160

The result on April 14 is from three observations by Mr. Cooper, that on April 15th is from three by Mr. Cooper and three by Mr. Graham.

The respective results on April 15, reduced by my ephemeris to the mean time, are,—

h m s	° ′ ″	
4 13 16·45	5 44 3·27	E. I. C.
4 13 16·28	5 44 1·62	A. G.

My first rough orbit still gives the comet's place with very tolerable accuracy.

Last night (April 17th) low clouds covered the comet.

A. Graham.

Markree Observatory, April 18, 1854.

Elements of Comet II. 1854.

Professor Littrow has forwarded the following elements of the comet, which he very obligingly accompanied with an ephemeris, extending from April 1 to May 4; but, as the latter does not differ materially from similar communications received from other sources, and which had already been in type, it has not been deemed necessary to publish it. Prof. Littrow remarks that the comet has no connexion either with the bright nebulous object seen by M. Brorsen on the 16th of March, or with the comet of 1556, and seems to be new.

Elements of the Comet computed by M. Hornstein.

Perihelion Passage, 1854, March 24·06022 M.T. Berlin.

	° ′ ″	
Longitude of Perihelion	213 47 55·4	App. Equinox, 1854, April 3.
Longitude of Node	315 26 49·8	
Inclination	82 22 40·9	
Log Perihelion Distance	9·4425544	

Motion retrograde.

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